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**UNITED STATES DISTRICT COURT
 NORTHERN DISTRICT OF CALIFORNIA
 SAN FRANCISCO DIVISION**

HUAWEI TECHNOLOGIES CO., LTD.,
 HUAWEI DEVICE USA, INC., and
 HUAWEI TECHNOLOGIES USA, INC.,

Plaintiffs / Counterclaim-Defendants,

v.

SAMSUNG ELECTRONICS CO., LTD.,
 SAMSUNG ELECTRONICS AMERICA,
 INC.,

Defendants / Counterclaim-Plaintiffs,

and

SAMSUNG RESEARCH AMERICA,

Defendant,

v.

HISILICON TECHNOLOGIES CO., LTD.,

Counterclaim-Defendant.

Case No. 16-cv-02787-WHO

**HUAWEI'S DAUBERT MOTION ON
 TECHNICAL ISSUES**

Hearing Date: August 8, 2018
 Time: 2:00 PM
 Judge: Hon. William H. Orrick

**REDACTED VERSION OF
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Plaintiffs Huawei Technologies Co., Ltd., Huawei Device USA, Inc. and Huawei Technologies USA, Inc. (collectively, “Huawei”) hereby move pursuant to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) to preclude Samsung’s expert witnesses from offering opinions that are contrary to the proper construction of claim terms, and the claim as a whole, in Huawei patents 8,724,613 (“‘613 patent”), 8,885,587 (“‘587 patent”), 8,644,239 (“‘239 patent”), and 8,416,892 (“‘892 patent”), and Samsung patents RE44,105 (“‘105 patent”), 8,761,130 (“‘130 patent”), 9,288,825 (“‘825 patent”), and 8,619,726 (“‘726 patent”).

I. BACKGROUND

This Court’s Claim Construction Order, dated August 31, 2017, construed the ten “most significant terms,” as selected by the parties. (Dkt. 168).¹ For a number of terms not construed by the Court, however, Samsung’s expert witnesses apply improper constructions and offer opinions based upon those improper constructions. In many instances, Samsung did not raise these claim constructions issues in the parties Joint Claim Construction Statement (Dkt. 124) and, instead, revealed these improper constructions for the first time in its experts’ reports. Samsung’s experts should be precluded from offering opinions that are based on these improper constructions.

II. LEGAL STANDARDS

Expert opinions “based on an impermissible claim construction” are improper and must be excluded. *See Liquid Dynamics Corp. v. Vaughan Co.*, 449 F.3d 1209, 1224 n.2 (Fed. Cir. 2006) (affirming district court’s decision to “exclud[e] . . . expert opinion evidence as irrelevant because it was based on an impermissible claim construction”); *France Telecom S.A. v. Marvell Semiconductor Inc.*, No. 12-cv-04967-WHO, 2014 WL 4272771, at *5 (N.D. Cal. Aug. 28, 2014) (excluding testimony of plaintiff’s expert on the ground that it was “based on [plaintiffs] rejected construction of ‘systematic convolutional coding’”); *Regents of Univ. of Cal. v. Micro Therapeutics, Inc.*, No. 03-cv-05669-JW, 2007 WL 2429412, at *3 (N.D. Cal. Aug. 23, 2007) (striking portion of expert report that “does not comply with the Court’s construction of the phrase ‘predetermined time period’”).

Moreover, experts cannot argue claim construction to the jury, because claim construction is

¹ This Court, by Order dated March 1, 2018, reconsidered its construction of the phrase “first P=temporary Mobile Station Identity (P-TMSI) in an access message. (Dkt. 247).

the province of the court. *See Fujifilm Corp. v. Motorola Mobility LLC*, No. 12-CV-03587-WHO, 2015 WL 1265009, at *6 (N.D. Cal. Mar. 19, 2015) (citing *MediaTek Inc. v. Freescale Semiconductor, Inc.*, No. 11-cv-05341-YGR, 2014 WL 971765, at *1 (N.D. Cal. Mar. 5, 2014); *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1337 (Fed. Cir. 2009) (“We have held that it is improper to argue claim construction to the jury because the ‘risk of confusing the jury is high when experts opine on claim construction.’”) (citing *CytoLogix Corp. v. Ventana Med. Sys., Inc.*, 424 F.3d 1168, 1172-73 (Fed. Cir. 2005)); Claim Construction Order 2-4 (Aug. 31, 217), ECF No. 168.

III. THE COURT SHOULD PRECLUDE SAMSUNG’S EXPERTS FROM OFFERING OPINIONS AT TRIAL THAT ARE BASED ON IMPROPER CLAIM CONSTRUCTIONS

A. Huawei’s ’613 Patent

The ’613 patent provides a mechanism for a mobile device to know when it may receive one or more services from a network, thereby both limiting the power expended by the mobile device and improving the efficiency of the network. *See Huawei Opening Claim Construction Br.* 9-11 (May 19, 2017), ECF No. 141. During the claim construction phase of this case, the parties presented only one term for construction: “receiving/receive . . . a service.” The Court agreed with Huawei that no construction was necessary for this term. *See ECF No. 168 at 10-11.*

During the *Markman* presentation, the parties presented tutorials that explained the radio frames and subframes used in LTE. As the parties explained, each frame consists of 10 subframes. *See also* ’613 patent at Fig. 4; Ex. 1, Lyon ’613 Invalidity Rpt. ¶ 67. The ’613 patent relates to services that can be sent in certain designated radio frames and subframes and position information that identifies these designated radio frames and subframes.

On May 25, 2018, Samsung’s expert, Dr. David Lyon, submitted a rebuttal report on non-infringement of the ’613 patent. *See Ex. 2, Lyon ’613 Noninfringement Rpt.* In his report, Dr. Lyon presents non-infringement arguments based on three new claim construction positions that Samsung never raised during the claim construction phase. *See ECF No. 124 at 1-3.* Specifically, Dr. Lyon argues that Samsung does not infringe the ’613 patent because:

(1) the “position information” of claims 1 and 5 must be

1 [REDACTED]
 2 *see* Ex. 2, Lyon '613 Noninfringement Rpt. ¶ 82;

3 (2) claims 1 and 5 [REDACTED]
 4 [REDACTED]
 5 [REDACTED]

see id. at ¶¶ 171-75;

6 (3) [REDACTED]
 7 [REDACTED]
 8 [REDACTED]

see id. at ¶¶ 188-90.

9 Dr. Lyon's claim construction positions on these "position information," "offset," and
 10 divided infringement issues run contrary to the proper construction of claims 1 and 5.

11 **1. Dr. Lyon's Opinions Based on an Improper Construction of "Position**
 12 **Information" Should Be Excluded.**

13 Samsung's expert, Dr. Lyon, opines that the "position information" of claims 1 and 5 must be
 14 [REDACTED]
 15 [REDACTED],

16 *see* Ex. 2, Lyon '613 Noninfringement Rpt. ¶¶ 28, 64, 71, 81-82, 120-21, 142-43, 153, 161. Dr.
 17 Lyon's opinion is improper.

18 Claims 1 and 5 require (in pertinent part) that a UE receive, or contain circuitry configured to
 19 receive: (a) a "service being sent in one or more subframes that are designated as specific subframes,
 20 the specific subframes being selected from one or more radio frames that are designated as specific
 21 radio frames;" and (b) "position information of the specific radio frames in the time unit and position
 22 information of the specific subframes in the specific radio frame on a transport channel." Reading
 23 those elements together, the claims require that the UE receives a "service" that is "*sent in*" one or
 24 more "designated" specific subframes selected from one or more "designated" specific radio frames,
 25 and the UE receives position information for those "designated" frames/subframes. Nothing in the
 26 plain language of the claims requires that *all* of the "designated" frames and subframes actually
 27 contain the service, such that there is an exact one-to-one correspondence between the designated
 28 frames/subframes and the frames/subframes that actually contain the service, as Dr. Lyon argues.

1 For example, if subframes 1, 2, and 3 were designated as specific subframes, and a UE received a
2 service sent in subframes 1 and 2 (but not 3), the service would still be “sent in” subframes
3 designated as specific subframes.

4 Dr. Lyon’s attempt to engraft extra limitations onto the claims finds no support in the
5 specification. The ’613 specification makes clear that the patented technology allows the UE to
6 distinguish unicast from multicast/broadcast frames and subframes. The specification explains that
7 the problem addressed by the patent is how to “inform the usage of each subframe” to the UE, as
8 either MBMS or unicast services, which “are in time division multiplexing.” *See* Ex. 3, ’613 patent
9 at 1:54-2:4, 2:38-44, 17:32-52. After receiving such information, the UE can then either attempt to
10 read or ignore the frames and subframes designated for unicast or multicast/broadcast services,
11 depending on which services are requested by the user. *See id.* This technology solved multiple
12 problems facing 3GPP at the time in designing the LTE standard, including “reducing signaling
13 overhead” in the network and “saving electrical energy of the user equipment.” *See* Ex. 4, R1-
14 071690 at 1; Ex. 3, ’613 patent at 1:63-2:4, 2:38-44, 17:32-52. To solve those problems, it was not
15 necessary to specifically indicate only those frames and subframes that actually contain a service.
16 *See id.*; *see also* Ex. 5, X. Fan Dep. 58:2-61:12, 82:5-86:8 (explaining how signaling frame type
17 allows the UE to “rest” during certain frames). In contrast, Lyon cites nothing from the ’613
18 specification to support his “position information” argument.²

19 Dr. Lyon’s argument also runs directly contrary to the intrinsic evidence and fails to reflect
20 what the inventors actually invented. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir.
21 2005) (citing *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)
22 (“Ultimately, the interpretation to be given a term can only be determined and confirmed with a full
23 understanding of what the inventors actually invented and intended to envelop with the claim.”)).

24
25 ² The specification also makes clear that the term “service” in the claims is broad, and can refer to a
26 transmission mode or one or more kinds of multimedia broadcast multicast (MBMS) services, a
27 service transmitted through a MBMS mode, or a service transmitted through a unicast mode. *See*
28 Ex. 3, ’613 patent at 17:53-18:10. Reading the claims to require that each one of the “designated”
frames and subframes actually contains a service, as Dr. Lyon does, conflicts with the broad
understanding of the term “service,” which is not limited to a particular instance of a service such as
an individual stream, but can encompass a transmission mode.

1 Huawei first publicly disclosed the technology of the '613 patent, and proposed incorporating it into
 2 the LTE standard, by submitting a technical contribution called R1-071690 to the 3GPP standards-
 3 setting organization. *See* Ex. 2, Lyon '613 Noninfringement Rpt. ¶ 42. Huawei cited the same
 4 contribution to the patent office during examination of the '613 patent, which makes the contribution
 5 intrinsic evidence that is highly relevant to claim construction. *See* Ex. 6, '613 patent file history
 6 excerpt); *Philips*, 415 F.3d at 1317 (“‘intrinsic evidence’...includes the prior art cited during the
 7 examination of the patent.”) (citation omitted). The R1-071690 contribution makes clear that it
 8 relates to a UE receiving information about frame and subframe “*type (M[B]SFN or non-*
 9 *MBSFN)*.”³ *See* Ex. 4, R1-071690 at 1 (emphasis added); *see also id.* at 1-2 (“This contribution
 10 provides a feasible solution for the *indication of subframe type* . . . two kinds of information need to
 11 be configured every modifying period [i]nformation about the MBSFN frames distribution . . .
 12 .[and] [i]nformation about the MBSFN subframes distribution within the MBSFN frame”).
 13 Information about frame and subframe type indicates which frames and subframes are “reserved” for
 14 MBSFN versus non-MBSFN services. *See* Ex. 7, Lyon Dep. 171:5-13 (admitting that eMBMS can
 15 only be “sent in frames and subframes that are designated as MBSFN subframes”). This evidence
 16 directly contradicts Dr. Lyon’s unsupported assertion that “position information” in the claims
 17 cannot refer to which frames and subframes are “reserved” to carry services.⁴

18 In sum, Dr. Lyon’s opinion based on the term “position information” finds no support in the
 19 claims, specification, or intrinsic evidence. The Court should preclude Dr. Lyon from presenting
 20 arguments based on this improper claim construction at trial, and should strike paragraphs 28, 59,
 21 64, 71, 67, 81-82, 120-21, 141-43, 153, 159, and 161 of Dr. Lyon’s report.

22
 23
 24
 25 ³ MBSFN stands for multicast-broadcast single-frequency network. MBMS services are sent in
 MBSFN frames.

26 ⁴ In fact, the entire basis of Dr. Lyon’s position is illogical, because he effectively argues that the
 27 '613 patent claims must be construed to cover portions of the LTE standard that *did not even exist*
 28 *until a year and a half after Huawei’s technology was adopted into the standard* (TS 36.331
 v9.2.0) and that no witness has linked to the genesis of the '613 patent. *See* Ex. 2, Lyon '613
 Noninfringement Rpt., ¶ 136. In contrast, Huawei’s expert properly relies on a contemporaneous
 version of the LTE standard (TS 36.331 v8.4.0) linked to Huawei’s invention to prove infringement.

2. **Dr. Lyon's Opinions Regarding What He Calls a "Non-Zero Offset" Have No Basis in the Claims and Should Be Excluded.**

Claims 1 and 5 of the '613 patent require that the radio frames that are "designated as specific radio frames" be "selected from a time unit, wherein the time unit comprises 2^M radio frames" *See, e.g.*, Ex. 3, '613 patent at 18:29-30. Dr. Lyon asserts that this claim language requires that the [REDACTED] *See* Ex. 2, Lyon '613 Noninfringement Rpt. ¶ 171. For example, in a time unit composed of 2^{10} (*i.e.*, 1024) radio frames, Dr. Lyon contends that claims 1 and 5 require that the first radio frame in the time unit *must* be designated as a specific radio frame, such that there is no "offset" between the start of the time unit and the start of the designated specific radio frames. *See id.* Lyon, however, points to nothing in the claims that imposes this spurious limitation. *See id.* Nothing in asserted claims 1 and 5 requires a specific starting position, and seeking to impose such a limitation is an improper attempt to narrow the scope of the claims. *See, e.g., Hogan AB v. Dresser Indus., Inc.*, 9 F.3d 948, 950 (Fed. Cir. 1993) ("It is improper for a court to add 'extraneous' limitations to a claim") (citation omitted); *Laryngeal Mask Co. v. Ambu A/S*, 618 F.3d 1367, 1371 (Fed. Cir. 2010) ("Certainly, it would be improper to add a tube joint limitation to the claims at issue where none appears.").

The same conclusion follows directly from the '613 patent specification. The embodiments described in the '613 patent specifically contemplate use of non-zero offsets. The '613 patent uses the term "starting position" to refer to what Dr. Lyon calls an "offset." In one embodiment, "F can represent the number G_p of the specific radio frames in the time unit," where G_p together with "*starting position g_0* " which "can be appointed or informed by the signaling" precisely identify the position of the MBSFN radio frames. *See* Ex. 3, '613 patent at 13:58-14:27. The specification states that "the starting position may be appointed as 0," but a person of ordinary skill in the art would understand that "may" does not mean "must." The specification reinforces that the starting position need not be 0 by using a variable (g_0) rather than a constant to represent it. A person of ordinary skill would understand that a variable can vary—it need not always be 0 as Dr. Lyon asserts.

In another embodiment, the specification similarly states that "the positions of the specific radio frames can be determined according to a *starting position f_0* of the successive F_p specific radio

Dr. Lyon presents a divided infringement argument in his report, based his assertion that [REDACTED]

[REDACTED]

[REDACTED]” *See* Ex. 2, Lyon ’613 Noninfringement Rpt. ¶ 188. Lyon asserts that, as a result, [REDACTED]

[REDACTED].” *See Id.* at ¶ 190. The Court should preclude Dr. Lyon from presenting this argument at trial because Dr. Lyon relies on an incorrect understanding of the law and an incorrect reading of the claims.

As an initial matter, claim 5 is a product claim covering “user equipment,” such as a mobile phone. Samsung has not shown that divided infringement can legally apply to such a product claim. *See Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1305–06 (Fed. Cir. 2012), *rev’d on other grounds*, 134 S. Ct. 2111 (2014) (“When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer.”); *see also Akamai Techs., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1022 (Fed. Cir. 2015) (en banc) (stating that divided infringement doctrine pertains to method claims). Here, there can be no dispute that Samsung at least imports, offers for sale, and sells in the United States the Samsung phones that Huawei accuses of

1 infringement. Therefore, Dr. Lyon’s divided infringement argument for claim 5 of the ’613 patent
2 fails as a matter of law.

3 Dr. Lyon’s divided infringement argument for claims 1 and 5 of the ’613 patent also fail as a
4 matter of law, because claims 1 and 5 are written from a single perspective—user equipment (UE).
5 As the Federal Circuit has explained, “a patentee can usually structure a claim to capture
6 infringement by a single party, by focusing on one entity.” *Uniloc USA, Inc. v. Microsoft Corp.*, 632
7 F.3d 1292, 1309 (Fed. Cir. 2011) (citation omitted). That is exactly what Huawei did in claims 1
8 and 5. The elements of claim 1 unambiguously recite “receiving, by a user equipment” a service and
9 position information. Claim 5 is similar. “That other parties are necessary to complete the
10 environment in which the claimed element functions” is irrelevant. *See id.* In fact, in *Uniloc*, the
11 Federal Circuit provided an example of a claim that does not have divided infringement problems:
12 “a claim that reads ‘An algorithm incorporating means for receiving e-mails’ may require two parties
13 to function, but could nevertheless be infringed by the single party who uses an algorithm that
14 receives e-mails.” *See id.* The Federal Circuit’s example has a very similar structure to claims 1 and
15 5 of the ’613 patent.

16 Similarly, in *Tech. Patents LLC v. T-Mobile (UK) Ltd.*, 700 F.3d 482, 501 (Fed. Cir. 2012),
17 held that the claims “do not present an issue of joint or divided infringement. That is because,
18 contrary to the district court’s ruling, those claims do not require performance by multiple actors.”
19 *Id.* The Federal Circuit concluded that “representative claim 11 requires action only by the
20 originating user,” despite the fact that claim 11 recited characteristics of computers in
21 communication with the originating user’s computer. *See id.* at 490-91, 501; *see also FotoMedia*
22 *Techs, LLC v. AOL, LLC*, 2009 WL 2175845, *8 (E.D. Tex. July 21, 2009) (rejecting accused
23 infringer’s argument that a claim limitation reciting “receiving image data embodying an electronic
24 image, the image data transferred under control of the user at the sending computer” recited a
25 separate step performed by the user at the sending computer).

26 There is no support for Dr. Lyon’s new divided infringement argument for claims 1 or 5 of
27 the ’613 patent. The Court should therefore preclude Lyon from presenting his divided infringement
28 argument at trial, and should strike paragraphs 188 to 190 of Dr. Lyon’s report.

B. Huawei's '587 Patent

1. Dr. Lyon's Divided Infringement Opinions Rest on an Improper Construction of Claims 3 and 9 and Should Be Excluded.

Similar to his opinions offered with respect to the '613 patent (*see* Section III.A, above), Lyon also presents a divided infringement argument in his non-infringement expert report regarding the '587 patent, based his assertion that "[REDACTED]" *See* Ex. 8, Lyon '587 Noninfringement Rpt. ¶ 134. Lyon asserts that, as a result, [REDACTED] *Id.* ¶ 136. For the reasons specified above in Section III.A.3 and those further explained below, the Court should preclude Lyon from presenting this irrelevant and unreliable argument at trial, because it relies on an incorrect understanding of the law and incorrect reading of claims 3 and 9 of the '587 patent.

First, claim 9 is an apparatus claim directed to "user equipment." As explained above in Section III.A.3, Samsung has not shown that divided infringement can legally apply to such a product claim. *See Akamai*, 692 F.3d at 1305–06; *see also Akamai*, 797 F.3d at 1022. There is no dispute that Samsung at least imports, offers for sale, and sells in the United States the Samsung phones that Huawei accuses of infringing the '587 patent. Thus, Lyon's divided infringement argument for claim 9 of the '587 patent fails as a matter of law.

Moreover, claims 3 and 9 of the '587 patent are written entirely from the perspective of the user equipment (or device). The claims require that the user equipment perform or be capable of performing the following steps: (1) receiving downlink control information (DCI) from the network; and (2) feeding back ACK/NACK information according to commands configured in the DCI received from the network.

The claims provide further explanation of how the common field *must already be configured* in the DCI when it is received and acted on by the user equipment. For example, claims 3 and 9 both specify: "wherein the common field is configured as one command according to a type of downlink component carrier" Ex. 9, '587 patent at 22:21-32 (claim 3), 23:8-19 (claim 9). In

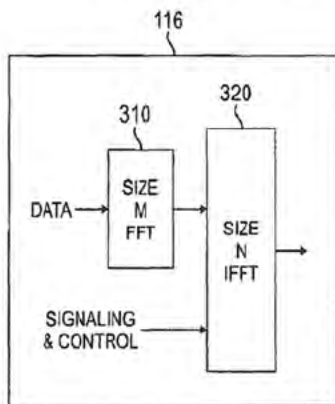
doing so, the claims merely specify that the user equipment must receive or be capable of receiving the already-configured DCI and then feedback information according to the configuration of the DCI. Claims 3 and 9 require Huawei to demonstrate that the DCI received by Samsung's devices has been configured in a certain manner, but they do not require Huawei to show that Samsung performed or controlled the act of applying this configuration.

Thus, there is no support for Dr. Lyon's divided infringement argument in claims 3 or 9 of the '587 patent. The Court should therefore preclude Dr. Lyon from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 134 to 136 of Dr. Lyon's non-infringement expert report concerning the '587 patent.

C. Samsung's '105 patent

1. Overview

The '105 patent describes a transmitter in an OFDM/OFDMA system. Ex. 10, Min Rebuttal



Rpt. ¶ 157. As depicted in Fig. 3 (to the left), the OFDM/OFDMA transmitter according to the '105 Patent performs Fourier transform (FFT or FT) precoding on only the data symbols before the symbols are converted into the time domain signals via IFFT (or IFT). *Id.* Samsung asserts that this results in a lower peak-to-average power ratio (PAPR) when the IFT converts the frequency-domain symbols into time-domain signals. *Id.* at ¶ 159.

2. Dr. Prucnal's Opinions Regarding Mapping FT Precoded Symbols and Non-FT Precoded Modulation Control Symbols at Different Times Should Be Excluded.

Asserted claim 28 of the '105 patent requires "mapping the FT pre-coded symbols to a first set of subcarriers" and "mapping the non-FT pre-coded modulation control symbols to a second set of subcarriers." Both sets of "subcarriers" are input to the IFT.

Samsung's expert, Dr. Paul Prucnal, asserts that the [REDACTED]

[REDACTED] Ex. 11, Prucnal Rpt. ¶¶ 416, 432. PUSCH and PUCCH

1 are never transmitted at the same time (*see* Declaration Of Dr. Mark Mahon, Ph.D. in Support Of
2 Huawei's Motions for Summary Judgment ("Mahon Decl.") ¶ 4; Mahon Decl. Ex. A, TS 36.211
3 v8.7.0, pp. 12, 16, 32), so Samsung's expert's infringement opinion relies on reading these claim
4 elements such that the "FT pre-coded symbols" and the "non-FT coded modulation control symbols"
5 can be mapped at different times and be transmitted in different symbols resulting from separate IFT
6 operations. This opinion contradicts the claim and should be excluded.

7 The claim language and specification require that "mapping the FT pre-coded symbols to a
8 first set of subcarriers" and "mapping the non-FT pre-coded modulation control symbols to a second
9 set of subcarriers" must occur such that both sets of subcarriers are available for the same IFT
10 operation (the operation that creates the transmission symbols). *See* Mahon Decl., ¶ 4. Claim 28
11 requires performing the IFT operation on one or both sets of subcarriers: "performing an inverse
12 Fourier Transform (IFT) operation on at least one of (i) the FT pre-coded symbols based on the first
13 set of subcarriers and (ii) the non-FT pre-coded modulation control symbols based on the second set
14 of subcarriers to generate an output signal." For the case when the IFT operation is performed on
15 both sets of subcarriers, both sets of subcarriers (i.e., first and second) must be available at the same
16 time for the same IFT operation. Furthermore, this must also be true when the IFT is performed only
17 on one of the subcarriers because the claim terms that "map" to the "first subcarrier" and "second
18 subcarrier" cannot have different meanings when the IFT is performed only on one of the "(i) the FT
19 pre-coded symbols" or "(ii) the non-FT pre-coded modulation control symbols."

20 The specification leads to the same conclusion. Figures 6A, 6B, and 6C are the only
21 description of mapping data and control information to different sets of subcarriers in the '105
22 patent. Mahon Decl. Ex. C, '105 patent at 8:22-59, Fig. 6A, Fig. 6B, Fig. 6C. These figures show
23 mapping data and control information to different sets of subcarriers that compose a larger group of
24 subcarriers available at the same time. The '105 patent never discloses mapping data and control
25 information to different sets of subcarriers in a configuration other than those discussed in Figures
26 6A, 6B, and 6C, nor does it include general language stating that such mappings could be performed.

27 Dr. Prucnal's opinion relies on interpreting the claim to allow separate IFT operations on the
28 alleged control information and alleged data information, even when the IFT operations are

separated in time. Ex. 11, Prucnal Rpt. ¶¶ 446-63. This opinion contradicts the claim, and for that reason, the Court should exclude Dr. Prucnal's opinion regarding the mapping of the FT pre-coded symbols to a first set of subcarriers and the mapping the non-FT pre-coded modulation control symbols to a second set of subcarriers. The Court should therefore preclude Dr. Prucnal from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 413-445 of Dr. Prucnal's infringement expert report concerning the '105 patent.

D. Samsung's '130 Patent

Samsung's '130 patent relates to multiplexing control and data information in single-carrier frequency division multiple access (SC-FDMA) communication systems, and more specifically, the transmission of acknowledgement bits and channel quality indicator bits together with data information bits in an SC-FDMA communications system. Ex. 12, Bambos Infr. Rpt. ¶ 117; Ex. 13, '130 patent at 1:15-25. The '130 patent describes mapping these bits and a reference signal to certain locations in a "slot." See Ex. 13, '130 patent at Fig. 10, 6:45-50.

1. Dr. Bambos Opinions Based on an Improper Construction of "Mapping Data Information to Remaining Symbols" Should Be Excluded.

Claim 13 of the '130 patent requires "mapping the data information to remaining symbols in the slot that are not used to map the reference signal." This claim language is unequivocal that the "data information" goes into each and every symbol that does not hold the reference signal. The specification is consistent. See Ex. 13, '130 patent at Fig. 10, 6:45-50.

The infringement theory of Samsung's expert, Dr. Nicholas Bambos, is based on his opinion that the physical uplink shared channel (PUSCH), operating as described in the 3GPP LTE standards, satisfies the elements of the claim, including the "mapping the data information" limitation. However, his opinion ignores that some of the symbols in PUSCH carry a sounding reference signal (SRS) and no data information. Mahon Decl. ¶ 37. According to TS 36.211, Section 5.3.4 of the LTE standard, the data and control information should be mapped "to resource elements (k, l) corresponding to the physical resource blocks assigned for transmission and not used for transmission of reference signals and not reserved for possible SRS transmission." Mahon Decl. Ex. A, TS 36.211 at p. 15 § 5.3.4 (emphasis added); Mahon Decl. ¶ 37. Dr. Bambos never opines

1 that the SRS holds data information, and in fact, it does not. Mahon Decl. ¶ 37.

2 Dr. Bambos's opinion should be excluded because it relies on an improper construction of
3 the phrase "mapping data information to remaining symbols." The plain meaning of the phrase is
4 that data information is mapped to all of the remaining symbols. SRS signals, which contain no data
5 information, cannot be mapped to the remaining symbols. Thus, there is no support for Dr.
6 Bambos's opinion that data information is mapped to the remaining symbols, as required by claim
7 13. The Court should therefore preclude Dr. Bambos from presenting this unreliable and irrelevant
8 argument at trial, and should strike paragraphs 550 to 594 of Dr. Bambos's infringement expert
9 report concerning the '130 patent.

10 **2. Dr. Bambos's Opinions Based on an Improper Construction of "CQI**
11 **Information Being Multiplexed with the Data Information" Should Be**
12 **Excluded.**

13 Claim 13 of the '130 patent requires that the "CQI information is multiplexed with the data
14 information." The antecedent to "the data information" is in the "mapping the data information to
15 remaining symbols in the slot that are not used to map the reference signal" step. By its language,
16 that step therefore requires "the data information" to mapped in all the remaining symbols. Because
17 the CQI information is multiplexed with "the data information," it must also be mapped to all the
18 remaining symbols.

19 Claim 13 requires each symbol other than the one holding the reference signal to contain CQI
20 information. Dr. Bambos opines that each non-reference signal symbol in LTE contains CQI. He is
21 wrong however, and another one of Samsung's experts, Dr. Prucnal, testified that Dr. Bambos was
22 wrong, as explained below.

23 In his report, Dr. Bambos opines that: [REDACTED]
24 [REDACTED]
25 [REDACTED]

26 Ex. 12, Bambos Infr. Rpt. ¶ 564. Samsung's expert, Dr. Prucnal, testified that Dr.
27 Bambos is incorrect:
28 [REDACTED]

Ex. 14, Prucnal Dep. (June 15, 2018) 61:19-62:8.

Thus, there is no support for Dr. Bambos's opinion that CQI information is multiplexed with data information and mapped to every symbol not containing the Reference Signal, as required in claim 13. The Court should therefore preclude Dr. Bambos from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 563-564, and 684-708 of Dr. Bambos's infringement expert report concerning the '130 patent.

E. Huawei's '239 Patent

The '239 patent relates to allocating and processing "sequences" and "sequence groups" in a communication system. These sequences and groups of sequences are used "as a reference signal for channel estimation"—a way to describe how a signal propagates from a transmitter to a receiver. Ex. 15, Madisetti Non-Infr. Rpt. ¶ 48; Ex. 16, '239 patent at 1:52-54. The '239 patent discloses a technique for allocating sequences groups in a way that minimizes interference between mobile devices in nearby cells. Zadoff-Chu ("ZC") sequences have the characteristic, when applied to radio waves used in cellular networks, that combining shifted versions of the same ZC sequence typically results in low correlation between the shifted sequences. This effect allows a base station to distinguish signals transmitted by different mobile devices. But if not allocated properly, different ZC sequences used by mobile devices in nearby cells may have greater correlation and, thus, may cause inter-cell interference between and among mobile devices in adjoining cells. *See* Huawei's Opening Claim Construction Br. at 6 (May 19, 2017), ECF No. 141.

1. Dr. Madisetti's Opinions Based on an Improper Construction of "Obtaining" Should Be Excluded.

Huawei's expert, Dr. Venugopal Veeravalli, opines that the "obtaining ... a group number k of a sequence group allocated by the system" claim element of the 892 Patent is met because the

mobile device calculates the claimed “group number k” from the Δ_{ss} and cell ID received from the base station. Ex 17, Veeravalli ’239 Inf. Rep. ¶¶ 255-256. Samsung’s expert, Dr. Vijay Madiseti responds that Samsung allegedly does not perform this element because [REDACTED] [REDACTED] [REDACTED] Ex. 15, Madiseti Non-Infr. Rpt. ¶ 64. Dr. Madiseti’s interpretation of the “obtaining” element is contrary to plain language of the claims and the intrinsic record and, therefore, Dr. Madiseti’s opinion should be excluded.

The claim language “obtaining ... a group number k of a sequence group allocated by the system” does not require [REDACTED], as Dr. Madiseti opines. See Ex. 15, Madiseti Non-Infr. Rpt. ¶ 65. Nothing in the intrinsic record precludes calculating the “group number k” from information received for, or allocated by, the system. Indeed, Dr. Madiseti does not, and cannot, cite to any evidence for his improper construction of the term “obtaining.” Instead, the ’239 patent’s specification expressly indicates that “obtaining” can include calculating. The specification says (twice) that “[t]he transmitter and the receiver may obtain the data through calculation in this way rather than store the data.” Ex. 16, ’239 patent at 13:13-15, 21:47-48. Similarly, dictionary.com defines “obtaining” as “to come into possession of; get, acquire, or procure, as through an effort or by a request.” Ex. 18, <http://www.dictionary.com/browse/obtaining>; see also Ex. 19, <https://www.merriam-webster.com/dictionary/obtaining> (“to gain or attain usually by planned action or effort”).

Dr. Madiseti’s construction contradicts of the term “obtaining” is wrong, as a matter of law. The Court should therefore preclude Dr. Madiseti from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 63-67 of Dr. Madiseti’s non-infringement expert report concerning the ’239 patent.

2. Dr. Madiseti’s Opinions Requiring a “Sequence” to Be a ZC Sequence Are Based on an Improper Construction and Should Be Excluded.

Dr. Madiseti introduces an incorrect claim construction – not disclosed during the claim construction process – to argue that the claimed “corresponding sequence” must be a particular type of sequence. Claims 7 and 18 recite that “the sequences correspond to at least one of: Zadoff-Chu

(ZC) sequences and Gauss sequences.” These claims therefore require only that the claimed sequence *correspond* to a ZC or Gauss sequence, not actually be a ZC or Gauss sequence.

Dr. Madisetti opines that certain sequences in the accused LTE standard are not ZC sequences. He argues that [REDACTED]

[REDACTED] Ex. 15, Madisetti Non-Infr. Rpt. ¶ 95 (citations omitted). Rather, Madisetti argues that the [REDACTED]

[REDACTED]⁵ Ex. 15, Madisetti Non-Infr. Rpt. ¶ 92. Dr. Madisetti admits that [REDACTED] Ex. 20, Madisetti Dep. (June 12, 2018) 154:12-15.

Dr. Madisetti’s opinion should be excluded because it contradicts the claim language. The plain claim language does not require that the “sequence” be a Zadoff-Chu sequence. Rather the claim requires only that “the sequences correspond to . . . Zadoff-Chu sequences.”

This distinction is important because Dr. Madisetti admits that the sequence $x_q(m)$, identified by Dr. Veeravalli and found in the LTE standard, is a ZC sequence. Ex. 20, Madisetti Dep. 154:12-15. The “base sequence,” as Dr. Madisetti calls it, contains this $x_q(m)$ sequence plus a portion of that sequence repeated. Ex. 15, Madisetti Non-Infr. Rpt. ¶ 93 (“While the sequence $x_q(0) \dots x_q(30)$ may be defined as a Zadoff-Chu sequence, the base sequence $x_q(0) \dots x_q(35)$ will not be a Zadoff-Chu sequence because a cyclic extension of a Zadoff-Chu sequence when appended to a Zadoff-Chu sequence would not result in a Zadoff-Chu sequence”). That “base sequence” therefore corresponds to a ZC sequence, as claimed, because it comprises a particular ZC sequence (*i.e.*, $x_q(m)$), plus a repetition of part of that sequence, as Dr. Madisetti admits. The Court should therefore exclude Dr. Madisetti’s opinion as contrary to the claim language.

The Court should therefore preclude Dr. Madisetti from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 91-95 of Dr. Madisetti’s non-infringement expert report concerning the ’239 patent.

⁵ By analogy, the appended sequence described above is like a sequence 30 letters long that contains the 26 letters in the alphabet followed by the repetition of A through D for the last four letters in the sequence. The sequence in the standard contains a ZC sequence, $x_q(m)$, followed by a repetition of as much of that sequence as necessary to fill out the sequence.

3. Dr. Madisetti's Opinions Based on an Improper Construction of "n sequences" Should Be Excluded.

Dr. Madisetti relies on a faulty claim construction to opine that Samsung's accused devices do not practice the element [REDACTED]. See Ex. 15, Madisetti Non-Infr. Rpt. ¶ 76.

Dr. Madisetti's reading of the claim, however, contradicts the law on interpreting plural claim terms and is inconsistent with the '239 patent. "In context, the plural can describe a universe ranging from one to some higher number, rather than requiring more than one item." *Versa Corp. v. Ag-Bag Int'l Ltd.*, 392 F.3d 1325, 1330 (Fed. Cir. 2004) (holding that "the use of 'channels' in the plural does not imply multiple channels") (citing *Dayco Prods, Inc. v. Total Containment, Inc.*, 258 F.3d 1317, 1328 (Fed. Cir. 2001)).

The claim language citing "*n sequences*" provides such context—*i.e.*, that the "*n*" number of sequences can "rang[e] from one to some higher number, rather than requiring more than one [sequences]." *Id.* The '239 patent's specification expressly explains that "*n sequences*" can be 1 or more sequences: "selection of the *n sequences* comes in two circumstances: **Preferably, *n* is 1**, namely, in the foregoing example, a sequence that makes $(r_m/N_{m-k}/N_1)$ the smallest is selected and included into a sub-group *m*. Preferably, *n* is a natural number greater than 1, and the value of *n* depends on the length difference between subgroup *N_m* and reference sub-group *N₁*." Ex. 16, '239 patent at 9:7-15 (emphasis added). Nor is this the only place the specification expressly includes one sequence in "*n sequences*." *Id.* at 19:26-34.

Dr. Madisetti's non-infringement opinion relies on an incorrect reading of the claim language. The Court should therefore preclude Dr. Madisetti from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 75-77 of Dr. Madisetti's non-infringement expert report concerning the '239 patent.

F. Huawei's '892 Patent

The '892 patent relates to random access procedures in mobile communications systems,

such as 3GPP cellular systems. *See* Ex. 15, Madisetti Non-Infr. Rpt. ¶ 111. The '892 patent creates random access preambles that substantially reduce the risk of interference with other random access preambles while reducing signaling needs. All mobile devices within a cell select one of 64 random access preambles. To reduce interference, this set of RAPs uses zero correlation zone (ZCZ) sequences. Ex. 21, '892 patent at 9:34-41; 10:30-37. Random access preambles generated with ZCZ sequences of a proper length for the cell size prevent a given sequence from interfering with other copies of itself or with properly shifted versions of itself. *Id.* at 2:54-59. These ZCZ sequences also allow the base station to distinguish signals from multiple mobile devices and to accurately determine the propagation delay from each mobile device. *Id.* at 2:31-47. The '892 patent describes random access preambles as utilizing one or more “root sequences” shifted by multiples of one of 16 identified cyclic shifts, resulting in non-interfering ZCZ sequences. Utilizing only 16 possible shifts reduces the signaling between the base station and mobile devices because the 16 shifts can be identified with fewer bits than a larger number of shifts. *See* Pls.' Opp'n to Mot. to Dismiss 5 (Sept. 27, 2016), ECF No. 86.

1. Dr. Madisetti's Opinion Requiring the UE to Select N_{cs} Is Based on an Improper Construction and Should Be Excluded.

Claims 1 and 10 of the '892 patent include an element requiring: “where N_{cs} is a cyclic shift increment selected from a pre-defined set of cyclic shift increments.” Samsung's expert, Dr. Madisetti, opines that Samsung does not infringe because [REDACTED] Ex. 15, Madisetti Non-Infr. Rpt. ¶ 127. This opinion is premised upon a fundamental misreading of the claim language, and should be excluded.

Claim 1 of the '892 patent requires “transmitting, by the UE, the selected random access preamble, wherein the set of random access preambles is provided with Zero Correlation Zones of length $N_{cs}-1$, where N_{cs} is a cyclic shift increment selected from a pre-defined set of cyclic shift increments.” Claim 10 contains a similar element.

Neither of these claims indicates how N_{cs} is selected or determined, and therefore the claim does not require the UE to select the N_{cs} value. This contrasts to other claim elements that

specifically include the “by the UE” limitations. *See e.g.*, Ex. 21, ’892 patent at claim 10 (“transmit the selected random access preamble ...”). Courts “give effect to the terms chosen by the patentee.” *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999). The claim does not require the UE to select Ncs and can also cover the situation where the base station selects the Ncs value and sends it to the UE.

Dr. Madisetti’s construction of the term “selecting” is wrong, as a matter of law. The Court should therefore preclude Dr. Madisetti from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 116-121 of Dr. Madisetti’s non-infringement expert report concerning the ’892 patent.

2. Dr. Madisetti’s Opinions Based on an Improper Construction of “A Set of Random Access Preambles” Should Be Excluded.

Claims 1 and 10 require “selecting, by a user equipment (UE), a random access preamble from a set of random access preambles.” For this selecting element, Dr. Madisetti bases his opinion that Samsung does not infringe on [REDACTED]. Ex. 15, Madisetti Non-Infr. Rpt. ¶¶ 122-23. Dr. Madisetti relies upon an incorrect construction that Samsung never raised in the Patent L.R. 4-3 Joint Claim Construction Statement and should be barred from offering opinions to the jury that are inconsistent with the legally correct claim construction.

The ordinary meaning of “selecting . . . a random access preamble from a set of random access preambles” does not require storing the set of random access preambles on the UE. Rather, a set can be a group of options from which the selected random access preamble can be created or generated. By analogy, a restaurant menu contains a set of entrées available for dinner. When a customer selects an entrée from the menu, the restaurant then prepares that dish. Similarly, in mathematics, one can select from the set of all even numbers even if one cannot or has not written out the infinite number of even numbers. In neither case does selecting from a set require every member of the set to be prepared or stored before the selecting.

The ordinary meaning of this claim element does not require storing the preambles for the same reason. Dr. Madisetti’s construction of the phrase “from a set of random access preambles” is

is wrong, as a matter of law. The Court should therefore preclude Dr. Madisetti from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 122-126 of Dr. Madisetti's non-infringement expert report concerning the '892 patent.

G. Samsung's '825 Patent

1. Dr. Valenti's Opinions Based on an Improper Construction of "Without Checking a Downlink Channel" Should Be Excluded.

Samsung's '825 patent is directed to reducing the possibility of collisions between different UEs in the event that the UEs initiate communications with a base station using the same shared channel during the same time period. This reduction in the possibility of collisions is achieved by having the UE wait for a predetermined period of time before checking the downlink channel for a response to the UE's initial message. *See, e.g.*, Ex. 22, '825 patent at Figs. 5-6, 6:12-39, 6:53-56; Ex. 23, Valenti Infr. Rpt. ¶¶ 108-109; Ex. 24, Valenti Dep. (June 20, 2018) 33:8-16, 34:11-23, 37:1-10; Ex. 25, Soeng-Hun Kim Dep. (Sept. 29, 2017) 203:4-11, 204:2-18.

Samsung's expert, Dr. Matthew Valenti, opines that the LTE standard and Huawei's products [REDACTED] and therefore infringe claims 1 and 4 of the '825 patent. Dr. Valenti's opinion, however, is based on a previously undisclosed and legally incorrect construction of "without checking a downlink channel" that runs afoul of the canons of claim construction. Dr. Valenti's incorrect construction and his corresponding opinions regarding infringement—as set forth in paragraphs 457-487 of his opening infringement report—should be excluded.

Claims 1 and 4 recite "after the transmitting of the first uplink signal, waiting for a predetermined delay duration without checking a downlink channel." Dr. Valenti's infringement analysis reveals that he implicitly construes "without checking a downlink channel" as "without checking a downlink channel for a specific message" in order to arrive at his infringement opinion.

For example, [REDACTED]

[REDACTED] Ex. 23, Valenti Infr. Rpt. ¶483 (emphasis added). [REDACTED]

1 [REDACTED] *Id.* at ¶470 (emphasis
 2 added). He confirmed this interpretation during his deposition. When asked for his interpretation of
 3 monitoring or checking a control channel, he explained: [REDACTED]
 4 [REDACTED]
 5 [REDACTED] Ex. 24, Valenti Dep. 85:23-86:3
 6 (emphasis added).⁶ He further explained that the claim relates only to monitoring for a specific type
 7 of message: [REDACTED] Ex. 24, Valenti
 8 Dep. 90:6-24.

9 Dr. Valenti's implicit construction impermissibly broadens the scope of the asserted claims
 10 beyond to encompass UEs that check a downlink channel for only some, but not all, messages during
 11 the "predetermined delay duration." Claim 1 recites "without checking a downlink channel," full
 12 stop. It does not limit the "without checking" element to any specific message. Samsung "could
 13 have specifically disclaimed [only] a particular" type of checking, "but did not do so," and instead
 14 disclaimed all checking of a downlink channel during the predetermined delay duration. *Imaginal*
 15 *Systematic, LLC v. Leggett & Platt, Inc.*, 805 F.3d 1102, 1110 (Fed. Cir. 2015). Dr. Valenti's attempt
 16 to broaden the scope of the claim by rewriting a negative claim limitation to disclaim only one
 17 specific example is improper and should be stricken. *See id.*

18 No portion of the '825 patent's specification redefines the ordinary meaning of "checking" in
 19 the way that Dr. Valenti asserts, nor broadens the "without checking" requirement to encompass
 20 checking for some, but not all, messages on a downlink channel. Samsung cited extensive portions
 21 of the specification in its Patent L.R. 4-3 submission that it contended showed the plain and ordinary
 22 meaning of "without checking a downlink channel." *See* Exhibit A to Joint Claim Construction
 23 Statement 60-31 (Apr. 7, 2017), ECF No. 124-1 (citing '825 patent at Abstract: 5-8; 3:38-39; 3:52-
 24

25 ⁶ The '825 patent's specification does not use the term "check" in the context of "without checking a
 26 downlink channel." Instead, it repeatedly refers to "without monitoring a downlink channel." *See*,
 27 e.g., Ex. 22, '825 patent at Abstract 5-6; 3:38, 3:52-53, 6:36-39, 6:53-54, 7:25-26, 10:1-3. During
 28 prosecution of the '825 patent's parent application, Samsung also equated the two terms. *See* Ex. 26,
 '392 Patent FH Dec. 18, 2012 Amendment and Response to Final Office Action at pp. 3-4 (reciting
 "without *checking* a downlink channel"), and p. 10 (arguing the claims require waiting "without
monitoring a downlink channel"). Dr. Valenti also repeatedly equated the terms during his
 deposition. *See*, e.g., Ex. 24, Valenti Dep. 32:19-35:22, 82:24-83:23, 89:20-90:24, 130:19-131:1.

Dr. Valenti's infringement opinion with respect to "without checking a downlink channel" is based on this erroneous claim construction. He points to a portion of the LTE standard that states that "the UE shall monitor the PDCCH for Random Access Response(s) identified by the RA-RNTI . . . in the RA Response window." Ex. 23, Valenti Infr. Rpt. ¶ 459 (quoting TS 36.321 at §5.1.4). In Dr. Valenti's view, this means that the LTE standard does not monitor the PDCCH (the "downlink channel") for "Random Access Responses(s)" prior to the start of that window. Ex. 23, Valenti Infr. Rpt. ¶459. Dr. Valenti relies exclusively on his claim construction argument that the "downlink channel" is not monitored for random access responses, *i.e.*, a specific message. *See, e.g.*, Ex. 23, Valenti Infr. Rpt. ¶¶470, 483. During his deposition, he conceded that while the UE

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Valenti's infringement allegations regarding "waiting . . . without checking a downlink channel" rely on an implicit and erroneous claim construction, they, and paragraphs 457-487 of his opening infringement report, should be excluded.

Dr. Valenti's construction of the phrase "without checking a downlink channel," is contrary to the intrinsic record and the proper construction of this term. The Court should therefore preclude Dr. Valenti from presenting this unreliable and irrelevant argument at trial, and should strike paragraphs 457-487 of Dr. Valenti's infringement expert report concerning the '825 patent.

H. Samsung's '726 patent

1. Dr. Bambos's Opinions Based on an Improper Construction of "associating a HARQ process with the calculated HARQ process ID" Should Be Excluded.

The '726 patent relates to voice services provided by Voice over Internet Protocol (VoIP) techniques, which "utilize persistent resource allocation to avoid the burden of transmitting resource allocation information for all of the VoIP packets of information." Ex. 12, Bambos Infr. Rpt. ¶ 181; *see* Ex. 28, '726 patent at 1:38-51. A value called a HARQ process ID is calculated by the UE to aid in error correction. *See* Ex. 28, '726 patent at 1:61-2:60, Figs. 1, 4.

Specifically, asserted claims 11 and 13 of the '726 patent require "associating a HARQ process with the calculated HARQ process ID." Samsung's expert on the '726 patent, Dr. Bambos, fails to apply the correct construction of this term in his infringement analysis, instead applying a claim construction that reads out this claim element altogether. Consequently, his opinions regarding the "associating a HARQ process with the calculated HARQ process ID" claim limitation, and any corresponding opinions related to this claim term, should be stricken from his infringement report. *See* Ex. 12, Bambos Infr. Report ¶¶ 837, 847, 855.

In its Patent L.R. 4-3 disclosures, Samsung took the position that the term needs no construction. However, it has become clear that Dr. Bambos' interpretation of the "plain and ordinary meaning" of the term effectively reads the limitation out of claim 11.⁷ The correct construction of the claim, based on the intrinsic evidence, is "mapping a HARQ process with a calculated HARQ process ID index." The "associating" claim element must have meaning.

⁷ Claim 13 depends from claim 11.

Claim 11 requires both a “controller that calculates a HARQ process IDentifier (ID)” using three parameters i , n , and t , and “associating a HARQ process with the calculated HARQ process ID.” ‘726 patent 19:16-21. As confirmed by the inventors of the ‘726 patent, the Second Embodiment of the specification provides the written support for the apparatus claimed in claim 11. Ex. 29, Ju-Ho Lee Dep. (Sept. 27, 2017) 21:20-22:9, 68:8-16; Ex. 25, Kim Dep. 186:24-188:4; Ex. 28, ‘726 patent at 7:54-10:62. In columns 8 and 9, the specification explains that a HARQ process index can be calculated using three parameters, the persistent resource allocation interval i , the number of persistent resource-dedicated HARQ processes n , and the time information t . Ex. 28, ‘726 patent 8:55-9:18.

The specification proceeds to describe how the HARQ processes x_1 to x_n can be “mapped” to the calculated HARQ process indexes 1 to n . Ex. 28, ‘726 patent at 9:19-30. Equation (4) of the patent shows an explicit example of the association between the calculated indexes 0, 1, and 2, and the HARQ processes 1, 3, and 7. Ex. 28, ‘726 patent at 10:9-13.⁸ According to the specification, Equation (4) discloses the “mapping information between the persistent resource-dedicated HARQ process identifier indexes and the HARQ process identifiers.” Ex. 28, ‘726 patent 10:5-8. Therefore, the Second Embodiment—the only disclosed embodiment of the ‘726 patent that practices the claims, *see* Ex. 30, Bambos Rebuttal Rpt. ¶ 414—discloses how a HARQ process index⁹ can be calculated and subsequently associated to a HARQ process in Equation (4), exactly paralleling the “calculating” and “associating” steps of claim 11. *See generally* ‘726 patent, 9:5-10:19. Accordingly, under a proper construction of the “associating” term in claim 11 that is consistent with the plain language of the claim and the only relevant disclosures in the patent specification, “associating a HARQ process with the calculated HARQ process ID” requires some form of deterministic mapping.

Not only does Dr. Bambos fail to apply the correct construction of the “associating” claim element, but his infringement opinions read out this claim element. In his infringement analysis of

⁸ The ‘726 patent specification does not use the term “associating” outside of generic regurgitations of claim language.

⁹ The parties dispute whether Equation (2) of the ‘726 patent represents a “calculation,” though both parties agree that Equation (3) performs a calculation of a HARQ process identifier index. Ex. 30, Bambos Rebuttal Report ¶ 425.

1 accused Huawei products [REDACTED]

2 [REDACTED]
3 [REDACTED]
4 [REDACTED] . Ex. 12, Bambos Infr. Rpt. ¶ 847 [REDACTED]
5 [REDACTED]
6 [REDACTED] Dr. Bambos's infringement theory regarding

7 accused Huawei products [REDACTED]
8 [REDACTED] Ex. 12, Bambos
9 Infr. Rpt. ¶ 855 [REDACTED]
10 [REDACTED]
11 [REDACTED] Neither of his analyses applies a proper

12 construction of "associating," and Dr. Bambos takes the position that performing a calculation alone
13 also satisfies the "associating" step, without actually showing any association. Ex. 12, Bambos Infr.
14 Rpt. ¶ 265 [REDACTED]
15 [REDACTED] Accordingly, Dr. Bambos's interpretation of "associating a HARQ

16 process with the calculated HARQ process ID" cannot be right. *See, e.g., Cat Tech LLC v.*
17 *TubeMaster, Inc.*, 528 F.3d 871, 885 (Fed. Cir. 2008) (refusing to adopt claim construction that
18 would "render[] an important claim limitation . . . functionally meaningless").

19 Paragraphs 837, 847, and 855 of Dr. Bambos' report, and any opinions related to this claim
20 term, should be excluded for relying on an incorrect claim construction. "Associating a HARQ
21 process with the calculated HARQ process ID" requires some affirmative act of deterministically
22 relating the calculated value with a HARQ process. Dr. Bambos's opinions relating to this claim
23 element should be excluded.

24 IV. CONCLUSION

25 For all of the foregoing reasons, Huawei respectfully requests this Court preclude Samsung's
26 experts from offering opinions at trial based on improper claim constructions.
27
28

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Respectfully submitted,

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